

AMENDMENTS TO THE CLAIMS

1-3 cancelled

4. (Previously presented) A reactor for the reaction of C₁₋₄-alkanols with ammonia in the gas phase for preparing alkylamines, which comprises a shape-selective fixed-bed catalyst which is present as a single contiguous fixed bed in the reactor and through whose interior tubes through which a coolant can be passed run, wherein cooling is carried out by means of boiling water cooling such that the difference between outlet temperature and inlet temperature of the reactor is less than 35°C.

5 -19 Cancelled

20. (Previously presented) The reactor as claimed in claim 4, where monomethylamine and dimethylamine are prepared from the reactor.

21. Cancelled

22. Cancelled

23. (Previously presented) The reactor as claimed in claim 4, where the tubes have a cross section which does not have any corners.

24. (Previously presented) The reactor as claimed in claim 23, where the tube cross section is circular or ellipsoidal.

25. (Previously presented) The reactor as claimed in claim 23, where the tube cross section is circular or ellipsoidal and the tube diameter is from 1 to 5 cm.

26. (New) The reactor as claimed in claim 4, wherein the tube in the reactor has a geometry chosen so that the temperature distribution in the fixed catalyst bed is uniform and such

that the difference between the outlet temperature and the inlet temperature of the reactor is less than 35 °C.

27. (New) The reactor as claimed in claim 25, wherein the tube in the reactor has a geometry chosen so that the temperature distribution in the fixed catalyst bed is uniform and such that the difference between the outlet temperature and the inlet temperature of the reactor is less than 35 °C.
28. (New) The reactor as claimed in claim 4, wherein the tube contains boiling water as a coolant.
29. (New) The reactor as claimed in claim 27, wherein the tube contains boiling water as a coolant.
30. (New) The reactor as claimed in claim 4, wherein the tube is in a coil form.
31. (New) The reactor as claimed in claim 29, wherein the tube is in a coil form.